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FEDERAL COMMUNICATIONS COMMISSION
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EMERGING TECHNOLOGY REPORT
OF THE FCC SMALL BUSINESS ADVISORY COMMITTEE

**Re: Competitive Bidding for
Broadband Personal
Communications Services:
PP Docket No. 93-253**

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June 21, 1994

Dear Chairman Hundt and Commissioners:

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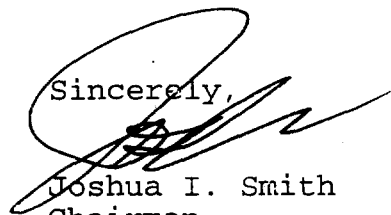
As you know, on June 13, 1994, the Small Business Advisory Committee (SBAC) conducted public hearings to review proposals for designated entity participation in the Broadband Personal Communications (PCS) spectrum auctions. The SBAC received comment from the public and inquiries from Commission staff members, including the FCC General Counsel and Chief of Policy and Rules, concerning possible use of Enterprise Blocks, and cut-off points for attribution rules.

Subsequently, the SBAC Executive Committee submitted a preliminary summary of proposals reflecting the views of the Executive Committee members, with the proviso that this docket report would be prepared for the Committee and submitted in time for the Commissions open meeting on June 29, 1994.

Out of an abundance of caution, the SBAC considered modifications to the preliminary proposals on eligibility caps, attribution guidelines, and bidding credits program. Ultimately, the SBAC voted to modify only the attribution proposal to allow relaxation for businesses owned by disadvantaged women and minorities.

This report adopts the Executive Committee's proposal, as modified, by the full membership on circulation. We look forward to the Commission's action in the Broadband PCS proceeding, and to an ongoing dialogue on the role of designated entities in National Information Infrastructure initiatives.

Sincerely,



Joshua I. Smith
Chairman
Small Business Advisory Committee

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RULEMAKING BACKGROUND

On September 15, 1993, the SBAC submitted its original PCS report based on hearings conducted in May and September 1993. The report documented three findings: (1) entry opportunities have been constrained by undercapitalization, ownership concentration, and exclusionary conditions impacting participation of business owned by minorities and women; (2) capital formation is the major economic barrier; (3) the surmountability of these barriers is determined by the cost of bidding and the designation of service areas and bandwidth assignments. Accordingly, the SBAC recommended the use of the Commission's authority to allocate spectrum for DE use, award innovator preferences, grant tax certificates and related financial subsidies, and adopt flexible attribution rules.

As indicated by Chairman Reed Hundt in testimony before Congress, the Commission has adopted a general menu of regulatory options to ensure DE participation, including potential use of DE spectrum blocks, bidding credits, installment payments and tax certificates based on the SBAC recommendations. Some of these options have already been employed in the context of adopting service specific rules on Narrowband PCS and Interactive Video data service, such as bidding credits, installment payments, and tax certificates. The recent decision to revise the Broadband PCS allocation scheme, as we discuss further in the following section, will further enhance potential for innovation and economic

opportunities.

This report examines certain residual issues relating to the SBAC's Enterprise Block proposal, attribution rules, and other recommended structural enhancements to promote innovation and economic opportunity. The remainder of the report is divided into four sections, "Critical Characteristics of PCS Technology," "Economics of High Bid Spectrum Auctions," "Treatment of Designated Entities" and "Regulatory Flexibility Options." Due to the complexity of these issues and the limited time for deliberations, the Commission should consider the option of issuing a policy statement on DE ownership rather than attempt to resolve some of these issues in the rulemaking process. The Commission has inherent discretion to implement Section 309(j)(3)(B) objectives by either rule or policy statement. The Supreme Court has upheld the use of policy statements to implement diversity and economic opportunity goals in Metro Broadcasting v. FCC. Moreover, the record the Commission has compiled in OPP Docket 93-52 contains substantial evidence to support this approach. This approach may have significant advantages over a premature attempt to resolve the specific details of complicated allocation and attribution issues that remain to be decided.

CHARACTERISTICS OF BROADBAND PCS SERVICE

A modified market approach is universally advocated among DE advocates to resolve complex question about spectrum block allocations, and related finance and attribution issues. Lack of data on the role of DEs in emerging PCS markets, however, substantially complicates the process of determining what the modifications should be. In this regard, the definition and role of DEs, and business owned by minorities and women in particular, are matters of considerable speculation. To resolve these issues, this section consider three important factors: What are the capabilities of Broadband PCS services? What does experience of other industries suggest about how the market structure for PCS should be designed to achieve access and economic growth? What market role for DEs does this empirical profile suggest? As explained below, these considerations confirm our earlier view that a competitive market structure will be essential to ensure that PCS services are constructed and operated without delay, and that the ability to compete, innovate, and form strategic alliances, will be the basis of the economic role for DEs in the Broadband PCS market.

A. PCS Technology

PCS technology has three critical characteristics that are presently driving market development. Like advanced satellite and

cellular technologies, PCS technology uses spectrum efficient digital techniques to reduce user equipment costs, maximize interoperability, and increase convergence of voice and data transmission capabilities. PCS technology is also interconnectable with the public switched network. Finally, micro-cell technology makes it possible to use smaller base stations, but a larger number of stations are required. These cost-intensive characteristics, combined with the expected cost of relocating 2 GHz microwave users, bid payments, and application fees, however, create formidable market entry barriers for DEs in terms of roaming capabilities, potential system construction costs, and time-to-market disadvantages.

The Commission's recent decision to revise the PCS allocation scheme enhances the flexibility to pursue multiple spectrum use and market development options. The scheme adopted before the revision allocated two 30 MHz MTA, one 20 MHz BTA, and four 10 MHz BTA licenses. The revision enlarges the block initially reserved for DEs from 20 MHz BTA to a 30 MHz license, and deletes one 10 MHz license, with all spectrum for licensed PCS allocated in the lower band. Among other things, this revision will permit operators to deploy base stations incrementally without immediate 2 GHz relocations, and minimizes interference problems. The reduction in the total licenses allocated per market from seven to six reduces potential overbuild problems and enhances the viability of the remaining three 10 MHz licenses.

These revisions, and the characteristics of PCS technology, enhance the prospects for competition in PCS service delivery, and delivery of highly demanded mobile communications services. Additional modifications to encourage economic opportunity and innovation may be needed, however, to ensure optimal diversity of service, universal access by captive residential and small business consumers, and global competitiveness.

B. Comparative Market Development Studies

The implementation of competitive bidding for PCS licenses gives the Commission a new opportunity to refine and apply the vision of an "open network" infrastructure it has pursued for more than two decades. Depending on the Commission's approach to "open network" goals, and the viability of the market structure, assignment of PCS licenses may ultimately include substantial benefits beyond price reductions for mobile service users. For example, many commenters before the SBAC have testified that structural provisions to prioritize innovation and economic opportunity would foster new opportunities for competitive access carriage, and wider array of specialized data and voice services for campus-type applications for captive residential and small business users. A comparison of past "open market" initiatives appears to confirm that reducing structural barriers to entry promotes universality of access and diversity of service, and that the failure to do so may involve substantial hidden costs over the

long term.

A survey of case studies on development of information services, competitive access carriage, equipment manufacturing, and mass media industries, appears to demonstrate a strong correlation between diffusion of benefits to the public and structural safeguards to encourage innovation and economic opportunity for non-dominant service providers, including business owned by minorities and women. Without open network architecture policies for the telephone industry, competitive access service providers would be unable to access or duplicate infrastructure owned by Bell Operating Companies (BOCs) needed to offer specialized services to private users. Information services and domestic consumer premises equipment manufacturing emerged for the first time in the post-industrial era after the divestiture of the Bell Operating Companies (BOCs) from AT&T in 1984. Before today's mass media became mature industries, licensing reform, of ownership policies, and tax incentives were needed to open up acquisition opportunities in the broadcasting and cable television industries. These cases illustrate how the long term benefits to the public from structural enhancements to encourage opportunities for new entrants can sometimes outweigh the costs of a short-term diminution in opportunities for dominant and quasi-dominant competitors.

Conversely, a survey of case studies on mobile services,

satellite, and cable television industries, suggests that an approach to deployment that targets only dominant competitors to exclusion of other incumbent or potential competitors, may yield unsatisfactory results for consumers. The benefits of satellite communications technology first began to penetrate consumer markets directly after rules changes facilitated non-carrier ownership of satellite and earth station facilities. The small cable system operators stand out as a conspicuous exception to the conventional wisdom toward the general concentration of ownership in the cable television industry reflected in the 1992 Cable Act. Finally, wireline set-asides, duopoly market structures, and random selection without weighted licensing preferences, has not fostered competition with LECs in the local loop or reduced the exclusion of minorities and women in the cellular industry. These studies suggest that services aggregating low volume or specialized demands are not likely to emerge without carefully tailored structural provisions to encourage innovation and economic opportunity for a wide variety of non-dominant and non-incumbent competitors.

C. Implications for the Economic Role of DEs

The SBAC's June hearing, and proceedings of the Commission's recent PCS Task Force in April 1994, although reflective of the prevailing uncertainty and confusion about the appropriate regulatory structure for PCS, yield some instructive insights about the economic basis for the potential DE market role. Many venture

capitalists assume that the most valuable use of PCS spectrum will be for cellular type applications, and question the likelihood that DEs will have a stand alone market role in the delivery of licensed PCS. That suggests that the primary opportunity to delivery of PCS service for Firms in the \$6 million and under category will either be through strategic alliances and consortia, or through use of spectrum allocated for unlicensed PCS in the upper band. Other financial sources with substantial experience in the telecommunications field, including members of the Small Business Investment Company (SBIC) community, expect a combination of mobile and niche services to drive market development if spectrum is allocated for an Enterprise Block and there is adequate flexibility to participate in joint ventures and consortia. Wireline carriers who fail to acquire licenses in the 30 MHz MTA blocks are expected to have a strong incentive to do strategic alliances, and DEs with up to \$75 million appear to be the appropriate target for these strategic alliances. In any event, passive investors and bidders with revenues in the \$75 million range clearly possess the means to afford involvement in PCS. In summary, opportunities to use licensed and unlicensed spectrum should provide a range of entry and innovation opportunities for firms with less than \$6 Million up to \$75 million in gross revenues. The varying circumstances of DEs indicate the need for a carefully tailored market approach that reflects a clear understanding of the impact of spectrum auctions.

ECONOMICS OF HIGH BID SPECTRUM AUCTIONS

The record developed on spectrum auctions since the SBAC submitted the First PCS Report permits us to address concerns about the impact of spectrum auctions on DE participation with a better understanding of auctions than before. By definition, the first high bid auction model or "English Auction" model the Commission selected is a pricing mechanism designed to discriminate against all bidders based on one bidder's ability to pay the highest bid. The use of this model will have several important implications for the public interest in light of the cost characteristics of the service.

The central dynamic in high bid auctions is the ability to pay. By identifying the bidder that places the highest monetary value on the license, it is presumed this model promotes competitive efficiencies will ensure that the government receives maximum revenues for the U.S. Treasury and that there is adequate competition to drive prices as close to cost of service as possible. The acquisition strategies encouraged by the high bid design, however, favor existing services and competitors, due to the asymmetries between incumbent large scale bidders, such as wireline carriers, and non-dominant entrants or innovative service providers. In this regard, the wireline carriers enjoy a

substantial advantage over others as a result of ownership concentration in cellular, and other advantages accruing to the FCC's earlier decision to set-aside paging and cellular spectrum for the exclusive use of incumbent wireline carriers.

When efficiency is defined in terms of lowering barriers to entry, innovation, and economic opportunity, however, the ability to pay is not necessarily dispositive of an applicant's readiness, willingness, or ability to innovate or diversify service delivery. In this regard, an unmodified market approach to spectrum allocation seems to diminish the prospects for optimal diffusion of new technologies, products, and services for the benefit of the public. The prospect of asymmetrical competition between incumbent and dominant competitors makes DE investments unattractive. The prospect of asymmetrical competition also discourages efforts to attract investment for services targeting large populations with low volume or specialized demand for service. Judging from historical case studies discussed above, asymmetrical competition under a high bid auction model could therefore yield substantial hidden opportunity costs over the long term, including the cost of foregone innovation for consumers and economic opportunity for DEs.

The range of preferences employed in the PCS auction design will ultimately determine which firms in the relevant range will enjoy meaningful opportunities and which ones will not. A wide

consensus has formed that bidding credits alone will clearly not provide meaningful assistance to DEs seeking to acquire licenses and compete with dominant and quasi-dominant competitors. It has been asserted that wireline carriers would be able to raise \$14 per pop from capital markets, with mid-size companies raising \$8 per pop, and small companies, \$4 per pop. This implies that small companies would need a bidding credit of 72 percent to compete successfully.¹ The SBAC's Enterprise Block proposal ensures that the benefits of non dominant participation are not compromised by counterproductive asymmetrical competition.

As an auction modification, moreover, the Enterprise Block has major advantages over spectrum auction modifications used abroad. Compared to Britain's post-auction public interest review procedure, the enterprise block modification avoids licensing delays and obviates the need to devise potentially complicated post-auction review criteria. Like New Zealand's blanket exemption for Moari Indian Tribes, the enterprise blocks system ensures participation by government designated entities, but preserves competition and generates revenues for the U.S. Treasury. Nonetheless, the use of an Enterprise Block system does not necessarily preclude use of competitive bidding exemptions, post-auction license spectrum sharing negotiations, or performance requirements, as needed to serve relevant public interest goals.

¹ Oral remarks of Rep. Kwiesi Mfume, Hearing on Discrimination in Telecommunications Industry, citing "The \$20 Billion Shut Out," Capital Markets, May 10, 1994.

The effectiveness of Enterprise Block eligibility criteria will determine the success of the enterprise block. To compensate for the cost-intensive characteristics of PCS, the Small Business Administration (SBA) has recommended an DE eligibility ceiling at \$40 Million in gross revenues, including DE bidders for Enterprise Block licenses. Other proposals, including proposals considered by the SBAC, call for a cut off point in the \$75-\$100 million range. In this regard, the SBAC is concerned that if the upper limit of the DE class is defined at over \$40 million, there is the potential that quasi-dominant DEs will be attracted to the Enterprise Block as a result of presumed advantages over less competitive DEs. As a result, significant competitive asymmetries will still exist within the enterprise block itself that could still crowd out participation by smaller DEs and DEs subject to discriminatory financial constraints. Consequently, we decline to alter our proposal for a \$75 million attribution limit in order to deter opportunism by quasi-dominant firms, and will continue to support bidding preferences, and other ancillary measures, to ensure participation in licensed and unlicensed PCS by DEs in the low capitalization range.

TREATMENT OF DESIGNATED ENTITIES

The Commission faces a number of practical policy problems and issues as it undertakes to use the competitive bidding process to translate the potential economic role for DEs into an actual role, while also ensuring balanced opportunities for participation in the relevant range. In this regard, a number of parties express concerns about the constitutionality or legality of certain FCC proposals to implement the Section 309(j). Others, such as the American Women in Radio and Television, who appear to accept the legitimacy of Section 309(j) preferences, question the fairness of a multi-tier approach to preferences that distinguishes businesses owned by women and businesses owned by members of minority groups. At the same time, some have expressed concerns that the Commission has not adequately distinguished the competitive circumstances of the various DE subgroups. Set-asides for businesses owned by minorities have been suggested to remedy this problem. Finally, others are concerned that overly narrow attribution rules could decrease potential for strategic alliances, and decrease the probability that disadvantaged business will become viable competitors.

While our views differ with respect to the merits of some of these concerns, we approach them all with the utmost sensitivity. Out of an abundance of caution, the Committee considered

modifications to the proposals that were communicated to the Commissioners following the 7th Quarterly meeting. On June 21, 1994, The SBAC voted to modify the attribution proposal to allow businesses owned by disadvantaged women and minorities with over 20% equity interests to have passive investors with over \$75 million in gross receipts. The SBAC declined to adopt modifications to preliminary proposals set forth in the Executive Committee's letter, and in prior SBAC reports.

At the outset, it is important to emphasize that the SBAC proceeds from the premise that ownership policies and rules must be designed to promote the interests of the public, rather than the private business interests of spectrum bidders. As indicated in the SBAC Interim Report, the public interest in universal access and larger use of radio are particularly relevant to the SBAC's missions, particularly as that interest pertains to the plight of users with low-volume or specialized demands such as small businesses and residential users in economically distressed or geographically isolated communities. Over the course of the past two years, the SBAC has repeatedly addressed, in precisely this context the need for economic opportunity, the conditions that constrain participation by non-dominant entities, and the causation and consequences of those exclusionary conditions.

The SBAC's findings on these points are a matter of public record. In the 1993 PCS Report, the SBAC stated that the "economic opportunity provisions invite reference to the distinct public interests in dissemination of licenses among a wide variety of applicants in the future to avoid excessive concentration of ownership, and preempting exclusion of minorities and women from communications ownership." The 1993 Report addressed entry constraints due to investment trends, concentration of ownership, and racial and gender disadvantage. In the 1994 Interim Report, the SBAC affirmed on its earlier empirical assessment by addressing additional structural constraints due administrative factors, licensing and spectrum allocation factors, and financial impediments in capital markets, such as redlining by Federal Depository institutions.

The SBAC has also spoken to the consequences of "spectrum malapportionment" and exclusionary entry conditions in telecommunication. In the first PCS Reports, the SBAC cited data demonstrating that non-dominant telecommunications firms contributed disproportionately to technical and non-technical innovation, including data compiled by the Commission and analyzed by the Congressional Research Service. Developments over the past year indicating industry interest in emerging radio information

sources, substantiates the relevance of this data and comments by parties advocating recognition of content "diversity" principles in this proceeding. The SBAC acknowledged the view that "the productivity and competitiveness of the nations citizens and small business are severely limited by inferior telecommunications capabilities" and that non-dominant entities are "most likely to meet the specialized needs of small businesses and residential consumers." In the Interim Report, the SBAC presented additional empirical evidence on micro-economic characteristics and diffusion capabilities of non dominant entry which will result in significant opportunity costs to the public and the telecommunications industry in terms of access and economic growth. (p. 24-53)

As stated in the Interim Report, these considerations led the SBAC to adopt an approach to DE preferences that attempts to "strike a balance between the need to remove regulatory and financial impediments through narrowly tailored measures, and the need to exercise restraint for practical as well as legal reasons." IR, p. 76. First there was a concern that over-reliance on preferences would encourage firms to maintain a sub-optimal economic size in order to qualify for preference benefits. In addition, the SBAC agreed with the Commission that "it may be... that the award of a fixed relative preference [to all non-dominant entities] would actually reduce the likelihood that a minority or female at a minority or female applicant would be the winner." IR, p. 77. At the same time, the SBAC deferred to the Commission's

view that it has concluded that the historical and contemporary disadvantaged status of women is of the same order, or has the same contemporary consequences, as the disadvantaged status of minority communities. The SBAC noted that findings by the Federal Reserve regarding redlining indicated that the FCC's earlier assessment continues to be accurate.

The matter of the proposed preferences for DEs, and minorities and women in particular, touches on highly sensitive matters of constitutional law. As a nation we aspire to create a society that is untouched by illegitimate discrimination of any kind. While there is no disagreement about the importance of this objective, the question of the means to employ to reverse our nation's history of exclusion in telecommunications falls among most controversial issues the SBAC and the nation as a whole must face. It is often the case that, the causes and consequences of societal discrimination toward individuals of various groups, and individual members of other groups, appears indistinguishable from an anecdotal point of view. As a result, theoretical justifications for policy classifications lacking empirical support are understandably viewed with skepticism, if not hostility, as a matter of public opinion.

Here, we have resolved that question with benefit of statutory guidance, in favor of a unitary approach to DE preferences that

prioritize diversity and economic opportunity based on the specific causes and consequences of the exclusion faced by the various DE subgroups. Like the Commission's rules on competitive bidding to date, the SBAC's proposals duly acknowledge the implicit disadvantaged status associated with non-dominant status in telecommunications. The first PCS Report acknowledged the troubling analogy between disadvantaged status of minority and women are analogous in troubling respects. However, the findings of the Federal Reserve regarding the causes and consequences of redlining in the lending community introduces a dimension geographical disadvantage that is not present in the context of DE groups. Congress has addressed the geographical disadvantage of rural consumers and communities through the legislation establishing the Rural Electrification Administration. No comparable action has been undertaken to redress underservice to low-income and minority urban areas, nor have women as a class experienced residential segregation.

Data furnished by the Minority Business Education and Legal Defense Funds indicates that the combination of minority underrepresentation in telecommunications ownership, and geographical bias towards predominantly minority residential communities, moreover, results in substantial income transfers by these communities that are seldomly offset by a commensurate share of revenue from wireline carrier procurement activity.

Under these circumstances, the SBAC sees no reason to depart from the settled presumption of disadvantaged status the Commission has traditionally accorded businesses owned by members of minority communities in the context of our proposal to relax attribution guidelines. Section 1.2110 of the FCC's rules, under DE status is attributed to business owned by members of minority groups and/or women with at least 50.1 percent equity ownership and 50.1 percent controlling interest in the applicant. The SBAC's attribution proposal recognizes an exception to this standard, based on a presumption of disadvantaged status, for minority owned Telecommunication Businesses with not less than 20.1% equity, even if passive investors exceed the \$75 million in gross receipts. At the same time, while recognizing the peculiar plight of minority communities we noted in the Interim Report that the Commission has been "receptive to factual showings in specific cases which indicate a need for preferential incentives to encourage female involvement/ownership." As we stated in the Interim Report, "we think this continues to be a reasonable approach in the context of the attribution guidelines. The distinctions drawn between minority and female business and between these groups and other DEs, however, are narrowly tailored ones, and have no bearing on other proposals seeking to avoid undue concentration of ownership. Thus, the SBAC has proposed other measures such as the Enterprise Blocks Communications Capital Fund, and innovators preferences that would extend to all DEs.

REGULATORY FLEXIBILITY RECOMMENDATIONS

The SBAC has carefully considered the Commission's proposals for including DEs against the background of the objective set forth in Section 309(j)(3)(B) for the past two years. There is wide agreement that the FCC's competitive bidding policies must stimulate optimal economic growth and access in order to meet these objectives. In our view, the available evidence demonstrates clearly that the public interest in spectrum use warrants an economic role for DEs, including those owned by minorities and women. To ensure that the spectrum use is narrowly tailored to further the interests that Congress and the Commission have identified, the SBAC urges the Commission to use a unitary approach to preferences with a high priority on ensuring diversity of ownership, economic opportunity and innovation, as set forth below.

Spectrum Allocation:

- o Designate spectrum blocks C and F for use by designated entities based on economic criteria as discussed in the SBAC Interim Report. Enterprise blocks will substantially promote the important goals of economic growth and access by deterring undue concentration of control and reducing historical barriers to entry.

- o Include provisions for flexible spectrum sharing and cross-block aggregation.
- o Request further comment on "Incubator" strategies to encourage use of spectrum reserved for unlicensed PCS in the upperband by minority and female firms.
- o Adopt a distress sale policy to govern disposition of surplus license acquisition by simultaneous bidders.

DE Attribution:

- o Set the upper limit on DE eligibility at \$75 million gross revenue cut-off point.
- o Relax attribution guidelines to recognize two exception to the general eligibility criteria for firms controlled by disadvantaged women with not less than 20.1% equity even if passive investors exceed the cut-off point in gross receipts, include provisions for spousal attribution to deter abuse.

Financial Incentives and Safeguards:

- o Provide in-block safeguards to modify asymmetrical bidder competition. The Interim Report approved by the Committee calls for bidding credits, such as the Narrowband PCS or

IVDS bidding credits in the amount of 25%.

- o Resume consideration of the SBAC's innovator credit proposal in the pioneer's preference proceeding as previously indicated in the First Competitive Bidding Order.
- o Extend installment payments to business with \$50 Million or less in gross receipts and to DE consortia.
- o Extend tax certificates to investors in successful bidder firms owned by minority and women, and for after-market transactions that assign or transfer PCS licenses to businesses controlled by minorities and women.
- o Reconsider the impact of filing fee amounts for businesses owned by minority and women.
- o Recommend to Congress the establishment of a Communications Capital Fund as outline in the SBAC Interim Report.